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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/913,992
Filing Date: March 21, 2002
Appellant(s): PELZ ET AL.

MAILED
MAY 26 2005
GROUP 2800

Richard L. Mayer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 15 February 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

U.S. Patent No. 6,185,491 to Gray et al.

U.S. Patent No. 6,246,935 to Buckley

U.S. Patent No. 6,330,499 to Chou et al.

U.S. Patent No. 4,866,713 to Worger et al.

U.S. Patent No. 4,843,557 to Ina et al.

FOLDOC Free On-Line Dictionary of Computing, "cyclic redundancy check",
<http://foldoc.doc.ic.ac.uk/foldoc/index.html>.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 11-14 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,185,491 to Gray et al. in view of U.S. Patent No. 6,246,935 to Buckley.

Gray discloses a service element that belongs to a distributed system as a component among a plurality of components of a distributed system, including a communication element, that are independent of one another and interconnected by

a bus (Figure 2) comprising an arrangement for configuring (i.e. selecting desired functions and settings) other components, an arrangement for equipping (i.e. activating) the other components, an arrangement for maintaining (i.e. maintaining operation at selected setting) the other components (column 5, lines 44-62 and Figure 9), and an arrangement for performing an emergency function (column 3, lines 52-54).

Gray discloses an arrangement for detecting a new component and for integrating the new component into the distributed system (column 6, lines 28-53) as well as an arrangement for operating a display device to represent information about a configuration (column 5, lines 60-64 and Figure 9) and transfer information about the distributed system to a user of the distributed system (column 6, lines 32-64).

Gray also discloses an arrangement including a communication element for loading new software interfaces for the plurality of components (column 4, line 65 to column 5, line 6 and column 6, lines 34-40 and 62-64).

As noted above, the invention of Gray teaches all of the features of the claimed invention except for including an arrangement for performing an error diagnosis of software running on the components, in accordance with a predetermined value, and, in case of an error, correcting the software as well as an arrangement for upgrading the components.

Buckley teaches a vehicle instrument panel computer interface and display including a central control node that communicates to a plurality of other components (column 2, lines 57-62 and column 3, lines 29-51) and performs an

error diagnosis of software running on the plurality of components (column 8, lines 46-63). Buckley also teaches determining the occurrence of an error in the software using a cyclic redundancy check with a checksum value (column 7, lines 38-52 and column 9, lines 28-38) (see also FOLDOC Free On-Line Dictionary of Computing, "cyclic redundancy check"), memory check (column 9, lines 38-55) and newly downloaded software check (column 10, 27-33), and, upon the occurrence of an error, correcting the software to maintain correct operation (column 9, lines 36-37 and 41-42 and column 10, lines 27-33) through the updating/upgrading the components of the system (column 10, lines 27-43).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray to include an arrangement for performing an error diagnosis of software running on the components, in accordance with a predetermined value, and, in case of an error, correcting the software, as taught by Buckley, because the combination would have provided a further method for determining when new updates are required, such as the updates disclosed by Gray, and, as suggested by Buckley, provided a method for determining whether the software of the devices are updated, complete, and correct thereby insuring correct operation of the distributed system (column 8, lines 46-65, column 9, lines 28-30 and column 10, lines 30-33).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray to include an arrangement for upgrading the components, as taught by Buckley, because, as suggested by Buckley, the combination would have provided a method for insuring accurate operation by keeping the system current

using the newest firmware and software to form a system that is adaptable, upgradeable, cost efficient, and open to a variety of software (column 2, lines 28-31 and column 10, lines 27-43).

Claims 15, 16, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray in view of Buckley and further in view of U.S. Patent No. 6,330,499 to Chou et al.

As noted above, the invention of Gray and Buckley teaches many of the features of the claimed invention including a communication element for loading new software interfaces for the plurality of components, but does not specify that the communication element includes a transceiver station communicating over a radio channel or including an arrangement for allowing a remote diagnosis of the plurality of components of the distributed system and a communications element for, in the case of a serious functional error, contacting a service provider.

Chou teaches a system and method for vehicle diagnostics and health monitoring including an in-vehicle computing system (column 2, lines 55-63) connected to a plurality of elements on a bus (column 3, lines 33-37 and column 6, lines 55-56) and an arrangement for allowing a remote diagnosis of the system (column 3, lines 15-31) and a communications element for, in the case of a serious functional error, contacting a service provider (column 5, lines 16-24 and column 7, lines 4-26). Chou also teaches coupling the processor through a communicating

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transceiver for communicating over a radio channel to further devices such as a notebook computer (column 3, lines 47-53).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray and Buckley to specify that the communication element includes a transceiver station communicating over a radio channel, as taught by Chou, because Chou suggests that RF communication is one of a plurality of common communication means for interfacing to a plurality of devices thereby providing the user with desired method to communicate with the other devices. It also would have been obvious to include an arrangement for allowing a remote diagnosis of the plurality of components of the distributed system and a communications element for, in the case of a serious functional error, contacting a service provider, as taught by Chou, because the combination would have provided a method for adhering to space constraints of the system while still providing detailed monitoring and diagnostic functions to insure correct system operation and, as suggested by Chou, aided the user of the system by providing trouble-shooting, diagnosis, tracking, and recommendations, as well as prevented serious consequences (column 1, lines 18-30) and provided emergency responses to an emergency condition, such as the condition indicated by the emergency arrangement of Gray (column 7, lines 22-26).

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray in view of Buckley and further in view of U.S. Patent No. 4,866,713 to Worger et al.

As noted above, the invention of Gray and Buckley teaches many of the features of the claimed invention including determining the occurrence of an error in the software using a cyclic redundancy check with a checksum value (column 7, lines 38-52 and column 9, lines 28-38), however, the combination does not specify that this error diagnosis is performed at a predefined time interval.

Worger teaches an operational function checking method and device for microprocessors comprising performing a cyclic redundancy check at predefined time intervals (i.e. periodically) (column 4, lines 24-29).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray and Buckley to specify that the error diagnosis is performed at a predefined time interval, as taught by Worger, because the combination would have provided a method for determining proper operation periodically over operation of the device to insure accurate operation is being performed and, as suggested by Worger, the combination would have complied with operation of the system in carrying out the testing method (column 4, lines 24-29).

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray in view of Buckley and further in view of U.S. Patent No. 4,843,557 to Ina et al.

As noted above, the invention of Gray and Buckley teaches many of the features of the claimed invention including connecting a plurality of components to a bus in a vehicle system, however, the combination does not specify that this bus includes an optical wiring system.

Ina teaches connecting a plurality of components to a bus in a vehicle system, wherein the bus includes a common optical wiring system (column 2, lines 58-65).

It would have been obvious to one having ordinary skill in the art to modify the invention of Gray and Buckley to include specifying that the bus includes an optical wiring system, as taught by Ina, because Ina suggests a well-known, conventional system for serial communication between components in a vehicle system as would be desirable by the user for implementation with common device interfaces in the invention of Gray and Buckley (column 2, lines 58-65 and column 10, lines 23-24).

(10) Response to Argument

Appellant first argues:

"[c]laims 11 and 19 provide for a service element and a distributed system including other components that are independent of one another and interconnected by a bus, the service element includes: an arrangement for configuring the other components, *an arrangement for upgrading the other components*, *an arrangement for maintaining the other components*, and *an arrangement for performing an emergency function*.

In accordance with the example embodiment described in the present application, 'the service element of the present invention and the distributed system of the present invention have the advantage that the service element is able to carry out configurations, upgrades, maintenance, and, if necessary, emergency functions on the components of the distributed system.' (See Specification, page 1, lines 22-25)."

Appellant then asserts:

"the Gray patent does not disclose or even suggest the features in which *an arrangement maintains other components* and *an arrangement performs an emergency function* in a distributed system, as provided for in the context of claims 11 and 19. The Gray patent merely indicates that when a device is installed in a vehicle, a vehicle control center becomes aware of the installation and requests or otherwise receives a stored device interface from the device such that the vehicle

control center uses the device interface as received or replaces it with a different interface already stored in memory. The Gray patent only provides for configuration and upgrading of devices via a vehicle control center that may be used to control various devices of the vehicle (e.g., air bag activation, etc.). The Gray patent does not describe that the vehicle control center, itself, performs an emergency function. Nothing in the Gray patent discloses or even suggests the claim features of an arrangement for maintaining other components in a distributed system and an arrangement for performing an emergency function, as provided for in the context of claims 11 and 19."

The Examiner first asserts that the Final Office Action mailed, May 03, 2004, stated that the invention of Gray discloses "an arrangement for configuring (i.e. selecting desired functions and settings) other components, an arrangement for equipping (i.e. activating) the other components, an arrangement for maintaining (i.e. maintaining operation at selected setting) the other components (column 5, lines 44-62 and Figure 9), and an arrangement for performing an emergency function (column 3, lines 52-54)."

Gray specifically states,

"The fact that button 910 has been activated is indicated by the enhanced border around the button. When other buttons are selected, they will be similarly enhanced and the border around the sound system button 910 will revert to a normal outline. Each of the buttons shown on touch screen 330 can be implemented as an individual Java bean. JavaBeans™ can contain other JavaBeans™ in a hierarchical fashion. Accordingly, the entire graphical interface display area of touch screen 330 can be implemented using JavaBeans™ contained within one graphical user interface Java bean. Along the left margin of the graphical interface display area are a plurality of buttons for selecting an appropriate sound function. In this case, the FM front end source has been selected as indicated by the enhanced boarder around button 920. Other selections include a CD player source, a tape player source and an AM radio front end. Volume control, adjustment of treble and bass, channel selection and scanning are also implemented." (column 5, lines 44-62).

In an After Final response filed June 30, 2004, Appellant also admits that "[i]n connection with the 'arrangement for maintaining,' the Examiner apparently relies on the Gray patent, col. 5, lines 44-62 and Figure 9 as disclosing this feature.

Respectfully, this portion of the Gray patent does not appear to relate to 'maintaining' a component. Instead, this portion describes the sound system can be controlled via the GUI. Figure 9 also shows that various other components (heat/ac, lighting and navigation), can also be controlled via the GUI. There is nothing in the portions of the Gray patent upon which the Examiner relies that discloses maintaining components."

The Examiner asserts that the instant specification does not provide any indication as to what particular maintaining operations are carried out by the service element but instead, as indicated by Appellant above, the described embodiments only indicate that "the service element of the present invention and the distributed system of the present invention have the advantage that the service element is able to carry out configurations, upgrades, maintenance, and, if necessary, emergency functions on the components of the distributed system". Therefore the interpretation of maintaining a device at a desired setting/level of operation is consistent with a reasonable interpretation of the claimed language as well as the general dictionary definition of maintaining which is "to keep in an existing state".

Therefore, as disclosed by Gray and described by Appellant, the invention of Gray discloses a service element for controlling other components of a distributed system via a GUI arrangement. This control includes the configuring of other components, for example sound, heat/ac, and lighting systems, and upon configuring the other component to a specific setting, maintaining the component at the specific setting for proper operation such as maintaining the sound system at a particular channel frequency and volume setting, maintaining the heat/ac at its desired level of operation to maintain temperature conditions (i.e. "A heating/air conditioning unit 250 can be controlled using the vehicle control center to set the appropriate environmental conditions within the passenger cabin", column 3, lines 49-52), and/or maintaining the power applied to the cabin lights to maintain the light at a desired output/brightness.

Therefore, the Examiner maintains that the invention of Gray does disclose an arrangement that maintains other components, as required in claims 11 and 19.

The Examiner also asserts that, as mentioned above, since there is no provided example or definition as to what it means to "maintain" a device, if Appellant is interpreting the limitation for "maintaining" as keeping the devices in working operation, Appellant admits that the invention of Gray teaches such a limitation through upgrading of the devices via the control center: "The Gray patent only provides for configuration and upgrading of devices via a vehicle control center that

may be used to control various devices of the vehicle (e.g., air bag activation, etc.)” (Appeal Brief, page 5, lines 28-31).

With respect to the limitation requiring an arrangement for performing an emergency function, Gray specifically states, “A heating/air conditioning unit 250 can be controlled using the vehicle control center to set the appropriate environmental conditions within the passenger cabin. Other attached devices can be used in the network vehicle. These include radar, air bag activation and status, video cameras, emergency rescue, alarms, anti-theft system . . .” (column 3, lines 49-55).

The Examiner asserts that this section of Gray indicates that the service element (i.e. vehicle control center) is used to control emergency devices, such as an air bag device, emergency rescue device, or anti-theft system. Therefore, since the service element is controlling the emergency devices to perform their functions for airbag activation, emergency rescue, and anti-theft, the service element is performing an emergency function through such control. This is apparent because if the service element were not present to control the emergency devices, the emergency functions would not be performed.

Appellant also argues:

“Claims 11 and 19 further recite *an arrangement for upgrading the other components* (the other components being a number of independent components of a distributed system). In connection with this feature, the Examiner indicates that the Gray patent does not disclose this feature, and instead relies on the Buckley patent. (Final Office Action, page 4-5).

The Buckley patent, however, does not describe a component that upgrades other independent components in a distributed system. In the sections of the Buckley patent relied upon by the Examiner (col. 10, lines 27-33), the Buckley patent apparently describes upgrading firmware of the CIPN microcomputer via an external device (via an infrared link). This section does not describe a component of a distributed network having the ability to upgrade a number of independent components of the distributed system, as required by claims 11 and 19."

The Examiner first notes that on page 5, lines 28-31, of the instant Appeal Brief, Appellant specifically admits that "The Gray patent only provides for configuration and upgrading of devices via a vehicle control center that may be used to control various devices of the vehicle (e.g., air bag activation, etc.)." Therefore, Appellant is admitting that the invention of Gray does include a service element (i.e. vehicle control center) that is used to configure and upgrade the other components, as required in claims 11 and 19.

While Appellant has admitted that the invention of Gray teaches the limitation for a service element comprising an arrangement for upgrading the other components, the Examiner interprets the inventions of Gray and Buckley as follows:

The Examiner indicated, in the Final Office Action, mailed, May 03, 2004, that the invention of Gray "discloses an arrangement including a communication element for loading new software interfaces for the plurality of components (column 4, line 65 to column 5, line 6 and column 6, lines 34-40 and 62-64)", specifically "a network address such as a uniform resource locator (URL) from which the appropriate manufacturer's interface may be downloaded. This permits the manufacturer to

update a user interface on a dynamic basis and ensure that the most recent version of the manufacturer device interface is downloaded when a device is installed.”

Therefore the invention of Gray discloses the control center updating/upgrading a user interface as well as the control center providing up to date component interfaces for the other components of the distributed system when they are installed.

The invention of Buckley is then included to teach upgrading the component interfaces once they have been installed and incorrect software/operation has been detected, specifically, “System initialization software is stored in a flash EEPROM. After a boot is performed from EPROM, the flash executable code section will be cyclic redundancy checked. If this section does not pass the check, then it will be assumed that power was lost during a flash update through the infrared port. The section of flash EPROM used to buffer the packets will be checked for completeness and correctness. If the buffer is correct, then the contents will be copied to the executable area. If the buffer is incorrect, the CIPN will monitor the infrared port to look for a firmware upgrade” (column 9, lines 28-37).

The combination of downloading the required interfaces for each of the other components by the service element, as taught by Gray, with the upgrading of components once they are installed and incorrect software/operation has been detected, as taught by Buckley, meets the claimed limitation for “an arrangement for upgrading the other components”.

Further, it would have been obvious to one having ordinary skill in the art to modify the invention of Gray to include an arrangement for upgrading the components once they are installed, as taught by Buckley, because, as suggested by Buckley, the combination would have provided a method for insuring accurate operation by keeping the system current using the newest firmware and software to form a system that is adaptable, upgradeable, cost efficient, and open to a variety of software (column 2, lines 28-31 and column 10, lines 27-43).

Appellant further argues the rejection of claims 15, 16, and 21 as being unpatentable over Gray in view of Buckley and further in view of Chou because "claims 15, 16, and 21 are allowable for essentially the same reasons as claim 11, and since the Chou patent does not cure the critical deficiencies of the Gray patent and the Buckley patent, which were explained above."

The Examiner maintains that the combination of Gray and Buckley meets the invention of claim 11 and therefore Appellant's arguments with respect to claims 15, 16, and 21 are not persuasive.

Appellant further argues the rejection of claim 22 as being unpatentable over Gray in view of Buckley and further in view of Worger because "claim 22 is allowable for essentially the same reasons as claim 11, and since the Worger patent does not cure the critical deficiencies of the Gray patent and the Buckley patent, which were explained above."

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The Examiner maintains that the combination of Gray and Buckley meets the invention of claim 11 and therefore Appellant's arguments with respect to claim 22 are not persuasive.

Appellant further argues the rejection of claim 23 as being unpatentable over Gray in view of Buckley and further in view of Ina because "claim 23 is allowable for essentially the same reasons as claim 11, and since the Ina patent does not cure the critical deficiencies of the Gray patent and the Buckley patent, which were explained above."

The Examiner maintains that the combination of Gray and Buckley meets the invention of claim 11 and therefore Appellant's arguments with respect to claim 23 are not persuasive.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

jrw

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